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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,957	03/23/2005	Peter Schulmeister	P04,0293	8799

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SCHIFF HARDIN, LLP  
PATENT DEPARTMENT  
6600 SEARS TOWER  
CHICAGO, IL 60606-6473

EXAMINER

CHEN, SOPHIA S

ART UNIT	PAPER NUMBER
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2852

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/506,957

Applicant(s)

SCHULMEISTER ET AL.

Examiner

Sophia S. Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-36 is/are allowed.
- 6) ☒ Claim(s) 12-16 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                             |                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                 | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/8/04</u> . | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings filed 3/23/05 have been received. The drawings, except Figure 6, are approved.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 33 (Figure 6). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The abstract of the disclosure (substitute specification filed 9/8/04) is objected to because of the inclusion of legal phraseology, such as "comprises" (page 14, line 3) and "comprise" (page 14, line5). Correction is required. See MPEP § 608.01(b).

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4. The disclosure (substitute specification filed 9/8/04) is objected to because of the following informality: page 9, line 26, "24" should be "22". Appropriate correction is required.

***Claim Rejections – 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 12, 15, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (US Pat. No. 5,311,263).

The patent discloses a device for transporting toner in an electrophotographic printing or copying device, comprising a rotatable cylinder 1 having a cylinder sheath 1a for the transport of the toner (column 4, lines 31-35 and Figure 1); the cylinder sheath 1a comprising a metallic layer 21 having a surface with a roughness such that at least one of peaks and columns are provided along with recesses (column 2, lines 52-54; column 3, lines 50-65; Figure 3); the recesses of the surface are filled with a plastic 22 (polycarbonate; column 3, lines 56-62); the layer 21 comprises a volume resistance in a range up to approximately  $10^9 \Omega\text{cm}$  (column 10, lines 35-39); and the cylinder 1 comprises a magnetic cylinder 1b for transporting the developer to a toner deposition unit 1a in a developer station 2 of the electrophotographic printing or copying device (Figure 1).

***Claim Rejections – 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. in view of Kotsugai et al. (US Pat. No. 6,489,073 B2).

Suzuki et al., as discussed above, differs from the instant claimed invention in not disclosing the plastic comprises PFA or at least one of PTFE and a PTFE derivative.

Kotsugai et al. discloses an image forming apparatus comprising a coating material with a low surface energy includes PTFE, PFA, polycarbonate resin, and acrylic resin (column 10, lines 9-17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the PTFE or PFA as taught by Kotsugai et al. in place of

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the polycarbonate resin of Suzuki et al. because of the same functionality for providing low surface energy to the surface to reduce the adsorption of water content in the air (Kotsugai et al., column 10, lines 4-8).

***Allowable Subject Matter***

10. Claims 18-36 are allowed.

11. Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: Claim 18 is allowable over the prior art of record because the prior art of record does not teach or suggest a cleaning cylinder sheath comprising a metallic layer with a surface having a roughness such that the recesses of the surface are filled with a plastic, in combination with the remaining claimed limitations.

Claims 19 and 27 are allowable over the prior art of record because the prior art of record does not teach or suggest the cylinder sheath comprising a layer of a porous ceramic material having a roughness of approximately 20-80  $\mu\text{m}$ , in combination with the remaining claimed limitations.

Claims 28 and 36 are allowable over the prior art of record because the prior art of record does not teach or suggest the cylinder sheath comprising a layer made of a porous, thermal, electrically conductive ceramic sprayed layer, in combination with the remaining claimed limitations.

***Other Prior Art***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Suzuki et al. (US Pat. No. 5,245,391) discloses a cylinder sheath comprising a metallic layer having a surface with a roughness such that the recesses of the surface are filled with a plastic.

Suzuki et al. (US Pat. No. 5,339,141) discloses a cylinder sheath comprising a metallic layer having a surface with a roughness such that the recesses of the surface are filled with a plastic.

Kajimoto et al. (US Pat. No. 5,387,963) discloses a developing device comprising a one-component toner (no carrier); a developing roller; a toner supplying roller; and a toner removing/cleaning roller.

Suzuki et al. (US Pat. No. 5,451,713) discloses a cylinder sheath comprising a metallic layer having a surface with a roughness such that the recesses of the surface are filled with a plastic.

Tomita et al. (US Pat. No. 5,474,869) discloses a cylinder sheath comprising a metallic layer having a surface with a roughness such that the recesses of the surface are filled with a fluorine resin.

Hasegawa et al. (US Pat. No. 5,563,690) discloses a developing roller comprising a layer (no pores) having a powdery ceramic plated with a metal.

Takaya et al. (US Pat. No. 6,035,171) discloses a plastic including polycarbonate, PTFE, polyethylene, etc.

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Yokoyama et al. (US Pat. No. 6,077,207) discloses a printing web transporting roller (not transporting toner) comprising a sprayed layer of a porous ceramic material having a roughness of 20-50  $\mu\text{m}$ .

Kazakos et al. (US Pat. No. 6,226,483 B1) discloses a cylinder having a layer formed of ceramic material (not porous).

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sophia S. Chen whose telephone number is (571) 272-2133. The examiner can normally be reached on M-F (7:00-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sophia S. Chen  
Primary Examiner  
Art Unit 2852

Ssc  
June 6, 2005